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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,765	04/28/2006	Hiromu Izumida	052363-0033	6932
20277 7590 08/17/2009 MCDERMOTT WILL & EMERY LLP 600 13TH STREET, N.W. WASHINGTON, DC 20005-3096			EXAMINER ZHU, WEIPING	
			ART UNIT 1793	PAPER NUMBER
			MAIL DATE 08/17/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/577,765

Applicant(s)

IZUMIDA ET AL.

Examiner

WEIPING ZHU

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 29, 2009 has been entered.

Status of Claims

2. Claims 1-7 and 9 are currently under examination wherein claims 1 and 9 have been amended in applicant's amendment filed on May 29, 2009.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izumida et al. (US Pub. 2004/0099354 A1).

With respect to claims 1, 2 and 7, Izumida et al. ('354 A1) discloses a steel wire for heat-resistant springs having a composition by weight as shown in the Table below (claim 1):

Elements	Izumida et al. ('354 A1)	Instant Claims	Overlapping Ranges
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C	0.01-0.08	0.01-0.25	0.01-0.08
N	0.18-0.25	0.01-0.25	0.18-0.25
Mn	0.5-4.0	0.4-4.0	0.5-4.0
Cr	16-20	16-25	16-20
Ni	8.0-10.5	8.0-14.0	8.0-10.5
Mo	0.1-3.0	0.4-4.0	0.4-3.0
Nb	0.1-2.0	0.1-2.0	0.1-2.0
Ti	0.1-2.0	0.1-2.0	0.1-2.0
Si	0.3-2.0	0.8-2.0	0.8-2.0
Fe	Balance	Balance	

(a) 0.01 to 0.08% C, 0.18 to 0.25% N, 0.5 to 4.0 % Mn, 16 to 20% Cr, and 8.0 to 10.5% Ni; (b) at least one constituent selected from the group consisting of 0.1 to 3.0 wt % Mo, 0.1 to 2.0 wt % Nb, 0.1 to 2.0 wt % Ti and 0.3 to 2.0 wt % Si (claim 1). The composition of Izumida et al. ('354 A1) overlaps the claimed composition. A prima facie case of obviousness exists. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the claimed composition within the disclosed composition of Izumida et al. ('354 A1) with a reasonable expectation of success, because Izumida et al. ('354 A1) discloses the same utility over the entire disclosed element ranges of the composition. Izumida et al. ('354 A1) does not specify the C+N content as claimed. However, the C+N content of Izumida et al. ('354 A1) would obviously meet the claimed C+N content because of the content ranges of C and N as disclosed by Izumida et al. ('354 A1) overlap the claimed content ranges of C and N respectively. Izumida et al. ('354 A1) does not disclose the microstructure feature and x-ray diffraction intensity ratios as claimed in the instant claim 1. However, it has been well held where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or

obviousness has been established. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977), MPEP 2112.01 [R-3] I. In the instant case, the claimed and Izumida et al. ('354 A1)'s steel wire are identical or substantially identical in structure or composition and are produced by identical or substantially identical processes, therefore a prima facie case of obviousness exists. The same volume percents of martensite phase and austenite phase and same x-ray diffraction intensity ratios would be expected in the steel wire of Izumida et al. ('354 A1) as in the claimed steel wire.

With respect to claim 3, Izumida et al. ('354 A1) discloses that the steel wire further comprises by weight 0.2—2.0% Co (claim 2), which is the same as the claimed range.

With respect to claim 4, Izumida et al. ('354 A1) discloses that the steel wire has a surface roughness Rz of 1 to 20 microns (claim 3), which is the same as the claimed range.

With respect to claim 5, Izumida et al. ('354 A1) discloses the same shapes of traverse cross section of the steel wire as claimed (claim 4).

With respect to claim 6, Izumida et al. ('354 A1) further discloses that the steel wire is Ni-plated with a thickness of 1 to 3 microns (paragraph [0040]), which reads on the claim feature because the thickness of the nickel plating in meters can be converted to the claimed amount of adhered Ni in g/m^2 (thickness x density of nickel in g/m^3) depending on the density of the nickel plating. The amount of adhered Ni in the nickel plating of Izumida et al. ('354 A1) would be overlapping or close to the claimed range.

With respect to claim 9, it is a process limitation in a product claim. Even though the claimed product is limited by and defined by the process, determination of patentability is based on the product itself. Izumida et al. ('354 A1) discloses a steel wire (claim 1), which reasonably appears to be only slightly different than the respective claimed products in claim 1. A rejection based on section 103 of the status is eminently fair and acceptable. See MPEP 2113.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory

double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-7 and 9 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2 and 6 of U.S. Patent No. 7,404,865 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 2 and 6 of U.S. Patent No. 7,404,865 B2 disclose a steel wire, which is the same or obvious from the claimed steel wire. Claims 1, 2 and 6 of U.S. Patent No. 7,404,865 B2 do not disclose the microstructure feature and x-ray diffraction intensity ratios as claimed in the instant claim 1 and the claimed feature in the instant claim 9. The reasons for the rejection of the claimed features as stated above are further applied herein properly.

Response to Arguments

5. The applicant's arguments filed on May 29, 2009 have been fully considered but they are not persuasive.

First, the applicant argues that the drawing ratios of 70% or less disclosed by Izumida et al. ('354 A1) (paragraph [0029]) are completely different from 85% or more of the instant invention, therefore the desired texture as claimed in the instant claim 1 cannot be obtained; and Izumida et al. ('354 A1) teaches away from a drawing ratio of

more than 70% (paragraph [0029]). In response, see the ground of rejection of the instant claim 19 as stated above. The examiner notes that the application of the In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977) and MPEP 2112.01 [R-3] I as the ground of the rejection of the claim limitation of microstructure feature and x-ray diffraction intensity ratios as stated above is proper and maintained. Furthermore, it is well held that discovering an optimum value of a result-effective variable involves only routine skill in the art. In re Boesch, 617, F.2d 272, 205 USPQ 215 (CCPA 1980). In the instant case, the drawing ratio is a result effective variable, because it would directly affect the high temperature sag resistance of the steel wire as disclosed by Izumida et al. ('354 A1) (paragraph [0029]). Therefore it would have been obvious to one skilled in the art to have optimized the drawing ratio in the process of Izumida et al. ('354 A1) for the desired high temperature sag resistance of the steel wire. See MPEP 2144.05 II. It is also well held that mere disclosure of alternative designs does not teach away. See In re Fulton, 391 F. 3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Second, the applicant traverses the rejections of the instant claims 1-7 and 9 on the ground of nonstatutory obviousness-type double patenting for substantially the same reasons set forth in response to the 35 U.S.C. 103(a) rejections. In response, see examiner's response to applicant's first argument above.

Conclusions

6. This Office action is made non-final. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Weiping Zhu whose

telephone number is 571-272-6725. The examiner can normally be reached on 8:30-16:30 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

WZ

6/17/2009